

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number
WO 2004/012763 A1

(51) International Patent Classification⁷: **A61K 39/395**,
G01N 33/53, A61P 19/02, 11/06, 37/00 // C07K 16/28,
16/42

(CA). YU, Jing [CN/CA]; 798 McDermot Ave., Suite #2,
Winnipeg, Manitoba R3E 0T5 (CA).

(21) International Application Number:
PCT/CA2003/001090

(74) Agent: **BERESKIN & PARR**; 40 King Street West, 40th
Floor, Toronto, Ontario M5H 3Y2 (CA).

(22) International Filing Date: 25 July 2003 (25.07.2003)

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/400,036 2 August 2002 (02.08.2002) US
60/400,129 2 August 2002 (02.08.2002) US

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): **UNIVER-
SITY OF MANITOBA** [CA/CA]; 631 Drake Centre, 181
Freedman Crescent, Winnipeg, Manitoba R3T 5V4 (CA).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **RICH-
MAN-EISENSTAT, Janice, Beth, Yeved** [CA/CA];
195 Montrose Street, Winnipeg, Manitoba R3M 3L9

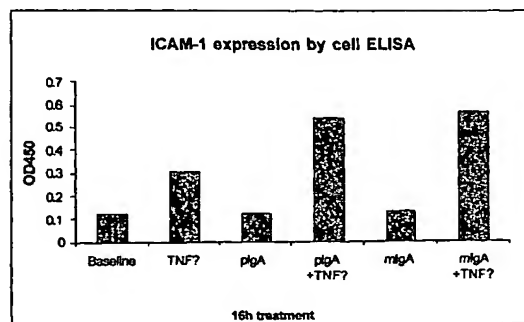
Published:

— with international search report

[Continued on next page]

(54) Title: MODULATION OF MESENCHYMAL CELLS VIA IGA-RECEPTORS

- IgA increases TNF α -induced ICAM-1
expression on RA synovial fibroblasts



(57) Abstract: IgA receptors, including a polymeric immunoglobulin receptor (pIgR) and a Fc α R, have been found on smooth muscle cells, synovial fibroblast cells and on both synovial and endothelial cells in synovial tissues from patients with arthritis. Incubation of smooth muscle cells or tissue with pIgA increases cytosolic calcium and alters the contractile state. Incubation of synovial cells with IgA modulates the inflammatory responses of these cells. The invention relates to methods of modulating calcium signalling and/or contractility of mesenchymal cells, as well as modulating (preferably inhibiting) the inflammatory responses of mesenchymal cells, methods of treating inflammatory conditions (such as asthma and arthritis), methods of drug delivery to mesenchymal cells and methods of detecting conditions associated with IgA receptors on mesenchymal cells.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.